



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,878	01/26/2006	Ioannis Maniatopoulos	026032-4890	8747
22428 7590 04/13/2010 FOLEY AND LARDNER LLP SUITE 500 3000 K STREET NW WASHINGTON, DC 20007				
EXAMINER				
KIM, HEE-YONG				
ART UNIT		PAPER NUMBER		
2621				
MAIL DATE		DELIVERY MODE		
04/13/2010		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/528,878

**Applicant(s)**

MANIATOPOULOS ET AL.

**Examiner**

HEE-YONG KIM

**Art Unit**

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 January 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. This office action is in reply to Applicant's Response dated January 27, 2010.
2. **Claims 1-6** has been cancelled.
3. **Claims 7-10, 13, and 15** has been amended.
4. **Claims 16-26** has been newly added.

***Response to Arguments***

5. Regarding **claims 7-15**, the applicant amended claims including allowable subject matters as indicated in the first office action and argues that claims are allowable (pp.7, line 12 – pp.8, line 7). However, regretfully the examiner withdraws the previous decision of allowable subject matters in the original claims 10-12. New grounds of rejections are made on the amended claims (see the rejection in this office action).
6. Regarding new **claims 16-26**, the applicant argues that references do not teach a video screen the video screen is rotatable relative to the frame about the second axis of rotation between approximately 150 degrees and approximately 210 degrees relative a frame (pp.8, line 9- end of pp.8). The examiner disagrees. The examiner maintains that Ma teaches the above (see the rejection of claim 16).

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2621

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. **Claims 22-23** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 22 cites "The video screen assembly of claim 16, wherein the screen rotates about the second axis of rotation without assistance by the occupant when the frame rotates between the first use position and the second use position". However, it is not disclosed in the previous disclosure and therefore, it is a new matter. Claim 23 is dependent on claim 22, therefore it is rejected too.

#### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. **Claims 16-18, 21, and 24** are rejected under 35 U.S.C. 102(b) as being anticipated by Ma (US patent 6,056,248), hereafter referenced as Ma.

Regarding **claim 16**, Ma discloses All Dimensional Display Device. Specifically Ma discloses A video screen assembly (All dimensional Display Fig.1-3) configured to be mounted to a vehicle seat (secure to one side of driver seat, col.2, 30-40) for use by an occupant positioned behind the vehicle seat (allow all the passenger in the car to look at, col.2, 30-40) , the video screen assembly comprising:

a first joint (pin 21 at Fig.1) defining a first axis of rotation, the first axis of rotation (pin 21 at Fig.1) configured to be a substantially horizontal axis (Fig.1) extending transverse to the vehicle seat;

an arm (2 at Fig.3) coupled to the first joint and rotatable (Fig.3) about the first axis of rotation (pin 21 at Fig.1)

between a first use position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) and a second use position (position shown at Fig.3); a frame (frame 3, Fig.1) coupled to the arm;

a second joint (332-334, Fig.3) provided at the frame, the second joint defining a second axis of rotation (support pivot 331 at Fig.1), the second axis of rotation being substantially parallel to the first axis of rotation (Fig.3); and

a video screen (display screen 32, Fig.3) supported at the frame (frame 3, Fig.3) and mounted to the second joint (332-334, Fig.3), the video screen having a front side and a rear side (display screen 32, Fig.3), a display being provided on the front side (Fig.3); wherein the video screen is rotatable (pivotal turning, col.2, line 53) relative to the frame about the second axis (support pivot 331 at Fig.1) of rotation between approximately 150

degrees and approximately 210 degrees (approximately 180 degree from the first position as shown at Fig.3) so that the display can face the occupant when the arm is in both the first use position and the second use position (allow all the passenger in the car to look at, col.2, 30-40).

Regarding **claim 17**, Ma discloses everything claimed as applied above (see claim 16). Ma further discloses wherein the first use position is a lower position and the second use position is an upper position (position shown at Fig.3), the first use position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) being between approximately 150 degrees and approximately 210 degrees offset from the second use position (approximately 180 degree between the first and second positions as shown at Fig.3).

Regarding **claim 18**, Ma discloses everything claimed as applied above (see claim 17). Ma further discloses wherein the first use position is approximately 180 degrees offset from the second use position (approximately 180 degree between the first and second positions as shown at Fig.3).

Regarding **claim 21**, Ma discloses everything claimed as applied above (see claim 16). Ma further discloses wherein the video screen is rotatable approximately 180 degrees about the second axis when the frame is in a position that is between the first use position and the second use position (Fig.3).

Regarding **claim 22**, Ma discloses everything claimed as applied above (see claim 16). *Wherein the screen rotates about the second axis of rotation without*

*assistance by the occupant when the frame rotates between the first use position and the second use position* is anticipated by Ma, because the display system could be installed on the back side of the driver seat and the ??

Regarding **claim 24**, Ma discloses everything claimed as applied above (see claim 16). It is anticipated by Ma, *A vehicle seat having a head restraint and a backrest having a rear side having an upper edge, the vehicle seat comprising the video screen assembly of claim 16*, because It was common at the time of invention to have a *vehicle seat having a head restraint and a back rest having a rear side having an upper edge*, and Ma further discloses that his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-40).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 7-9, 10, and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma, in view of Jobs (US 2003/0,086,240) (hereafter referenced as Jobs).

Regarding **claim 10**, Ma discloses A video screen assembly (All dimensional Display Fig.1-3) for mounting to a vehicle seat (secure to one side of driver seat, col.2, 30-40), the video screen assembly comprising:

a fitting (base 1 at Fig.1) for pivotally mounting the video screen (display screen 32, Fig.3) to the vehicle seat (secure to one side of driver seat, col.2, 30-40), the video screen being adjustable from a first, lower, position of use (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40) to a second, upper, position of use (position shown at Fig.3); a pivoting arm (support 2 at Fig.3) connected to the fitting for rotation (Fig.3) about a generally horizontal axis of rotation (pin 21 at Fig.1), the video screen being rotatably supported on the pivoting arm (2 at Fig.3);

a spring having a spring force opposed to the gravitational force when moving the video screen between the first and second positions; and

a first articulated joint (pin 21 at Fig.1) between the fitting (base 1 at Fig.1) and the pivoting arm (support 2 at Fig.3); and a second articulated joint (332-334, Fig.3) between the pivoting arm and the screen, wherein the first and second articulated joints each comprise a releasable (releasable into the first and second position) non-positive arresting device (No other forces are needed for both positions),

wherein the video screen is rotatable, in relation to the fitting, through an angle of 150 degrees to 210 degrees (approximately 180 degree from the first position as shown at Fig.3) from the first position of use to the second position of use, and

wherein the video screen can be pivoted upwards through an angle of 10 degrees to 20 degrees (screen can be rotated either first axis or second axis in 10 to 20 degrees from the stowed position) from a stowed position into the first, lower, position of use.



However, Ma fails to disclose a spring having a spring force opposed to the gravitational force when moving the video screen between the first and second positions.

In the analogous field of endeavor, Jobs discloses Computer Controlled Display Device. Jobs specifically discloses a spring (spring, paragraph 365) having a spring force opposed to the gravitational force (counteract the downward gravitational force), in order to bias display upward (paragraph 365).

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing a spring having a spring force opposed to the gravitational force when moving the video screen between the first and second positions, in order to bias display upward. The Ma all dimensional display, incorporating the Jobs spring, has all the features of claim 10.

Regarding **claim 7**, the Ma all dimensional display, incorporating the Jobs spring, as applied to claim 10, discloses wherein the video screen (Ma: display screen 32, Fig.3) is rotatable about a basically horizontal axis of rotation (Fig.3) in relation to the pivoting arm (Ma: support 2 at Fig.3).

Regarding **claim 8**, the Ma all dimensional display, incorporating the Jobs spring, as applied to claim 7, discloses wherein the video screen is rotatable through an angle of 150 degrees to 210 degrees (approximately 180 degree from the first position to second position in the above claim 10), in particular approximately 180, in relation to the pivoting arm (Ma: support 2 at Fig.3).

Regarding **claim 9**, the Ma all dimensional display, incorporating the Jobs spring, as applied to claim 10, discloses wherein the pivoting arm (Ma: support 2 at Fig.3), at its

end facing the video screen (Ma: display screen 32, Fig.3), comprises a frame (Ma: frame 3, Fig.3), inside which the video screen is rotatably arranged (Ma: support pivot 331 is turnable with respect to support 2, col.2, line 23-30).

Regarding **claim 13**, the Ma all dimensional display, incorporating the Jobs spring, as applied to claim 10, discloses A vehicle seat having a head restraint and a back rest having a rear side having an upper edge.

13. **Claims 11-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Jobs, further in view of Shida (US 6,661,571) (hereafter referenced as Shida).

Regarding **claim 11**, Ma and Jobs discloses everything claimed as applied above (see claim 11). However Ma and Jobs fail to disclose wherein the first and second articulated joint interact with one another through the use of a torque transmitting device, in such a way that when folding the pivoting arm in relation to the fitting, the video screen is turned through a basically equal angle in relation to the pivoting arm.

In the analogous field of endeavor, Shida discloses Surgical Microscopic System. Jobs specifically discloses the first and second LCD driving pulleys are rotated in the same direction and at the same speed by means of belt (equal to *torque transmitting device*, col.40, line 27-37) , in order to keep the positional relationship between two LCD's (col.40, line 27-37). This teaching can be applied to the combination of Ma and Jobs by driving both the first and second rotation with the same angle, in order to make screen display more user friendly.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma and Jobs by providing wherein the first and second articulated joint interact with one another through the use of a torque transmitting device, in such a way that when folding the pivoting arm in relation to the fitting, the video screen is turned through a basically equal angle in relation to the pivoting arm, in order to make screen display more user friendly. The Ma all dimensional display, incorporating the Jobs spring, further incorporating the Shida driving two pulleys rotating same angle, has all the features of claim 11.

Regarding **claim 12**, the Ma all dimensional display, incorporating the Jobs spring, further incorporating the Shida driving two pulleys rotating same angle, as applied to claim 11, discloses wherein the torque-transmitting device comprises a belt drive (anticipated by Ma, because It was common at the time of invention to have *a vehicle seat having a head restraint and a back rest having a rear side having an upper edge*, and Ma further discloses that his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-40)).

14. Claims **19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma in view of Anderson (US 5,513,746) (hereafter referenced as Anderson).

Regarding **claim 19**, Ma discloses everything claimed as applied above (see claim 16). However Ma fails to discloses wherein the first joint comprises a releasable locking device configured to retain the frame in an angular position about the first axis that has been selected by the occupant.

In the analogous field of endeavor, Anderson discloses Portable Display Device. Anderson specifically discloses releasable lock such as coil spring incorporated into a pivot joint joining display to the base (col.5, line 33-39), in order to do releasably lock (col.5, line 33-39) which automatically achieves retain the frame in an selected angular position.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the first joint comprises a releasable locking device, in order to do releasably lock. The Ma all dimensional display, incorporating the Anderson releasable locking device into the first joint, has all the features of claim 19.

Regarding **claim 20**, Ma discloses everything claimed as applied above (see claim 16). However Ma fails to discloses wherein the second joint comprises a releasable locking device configured to retain the screen in an angular position about the second axis that has been selected by the occupant.

However, Anderson specifically discloses releasable lock such as coil spring incorporated into a pivot joint joining display to the base (col.5, line 33-39), in order to do releasably lock (col.5, line 33-39) which automatically achieves retain the frame in an selected angular position.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the second joint comprises a releasable locking device, in order to do releasably lock. The Ma all

dimensional display, incorporating the Anderson releasable locking device into the second joint, has all the features of claim 20.

15. **Claims 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma.

Regarding **claim 25**, Ma discloses everything claimed as applied above (see claim 16). However Ma fails to disclose wherein the video screen assembly is configured to be substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position.

However, Ma discloses his invention can be adapted for the use in the car by securing the base at the one side of seat (col.2, line 30-40). One embodiment could be installed behind backrest, in order to be operated and viewed by the occupant in the back seat. However, since the head restraint could be trouble in the second position (see Fig.3), the clearance is needed between the head constraint and the display.

Therefore, given this teaching, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Ma by providing wherein the video screen assembly is configured to be substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, in order to be operated and viewed by the occupant in the back seat. The Ma all dimensional display, incorporating setting screen display substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, has all the features of claim 25.

Regarding **claim 26**, the Ma all dimensional display, incorporating setting screen display substantially behind the backrest in the first use position and substantially behind the head restraint in the second use position, discloses everything claimed as applied above (see claim 25). Ma further discloses wherein the frame is further rotatable (rotate further to be in the close position) about the first axis of rotation to a stowed position (Closed position, col.2, line 41-47) that is past the first position (pulling out of closed position and the 180 degree rotation of display for viewing by another axis as disclosed implicitly in column 2, line 31-40), the display of the screen is configured to face the backrest when the frame is in the stowed position.

### ***Conclusion***

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hee-Yong Kim whose telephone number is (571)270-3669. The examiner can normally be reached on Monday-Thursday, 8:00am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HEE-YONG KIM/  
Examiner, Art Unit 2621

/Andy S. Rao/  
Primary Examiner, Art Unit 2621  
April 12, 2010